AN ENVIRONMENTAL GUIDE FOR TEXAS

THERMOSET RESIN FACILITIES

An Overview of Pollution Prevention, Rules and Permits

First Edition

Published by the Small Business Technical Assistance Program of the Texas Natural Resource Conservation Commission and Clean Texas 2000

TNRCC offers the Small Business Technical Assistance Program (SBTAP) because small businesses have trouble finding and understanding environmental rules. Small businesses with fewer than 100 employees can receive free, confidential services and

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Please note that this guide provides an outline of certain environmental requirements that may affect a facility using thermoset resin composites and is not intended to offer legal advice. This guide is intended as advisory guidance only and is not intended as a substitute for reading the law or regulations.

CHARTS

This booklet introduces you and other Texans in the thermoset resin industry to state and federal environmental laws. It will let you know what kinds of regulations apply to your facility, whether you manufacture or repair products using thermoset resins. (The category "thermoset resins" includes fiber-reinforced plastics, cultured marble, and other cast polymers.) It will also let you know about publications you can request for more information on specific regulatory requirements.

This booklet was produced by the Texas Natural Resource Conservation Commission's Small Business Technical Assistance Program (SBTAP), an office created to help businesses like yours. You may deal with the SBTAP in confidence. The information you share with us and the questions you ask will not be provided to any regulatory or enforcement program.

In addition to providing information about environmental laws and regulations, we offer tips about how to reduce or prevent pollution. These tips can help save you money. They can also help reduce your emissions to the point where fewer regulations apply to you.

You may find after reading this booklet that you need more information. We have provided a postage-paid reply card to help you request the relevant publications. **Or you can call us at 1-800-447-2827 for free technical assistance.**

DO I NEED A STATE PERMIT?

Any business that generates air pollution must receive authorization from the Texas Natural Resource Conservation Commission (TNRCC) to construct or modify its facility and subsequently to operate. Whether you use thermoset resins to manufacture or simply to repair products, your facility must obtain at least one of these three types of authorization:

- "Grandfathered" status;
- Standard exemption(s);
- Air permit(s).

In addition, some facilities that emit enough air pollution may also need the following authorization:

- federal operating permit.

The type(s) of authorization you need depends on such things as:

- the amount of resins, solvents and other chemicals you use;
- the amount of air pollution your facility has the potential to generate;
- the quality of the air in the county where your facility is located; and
- the date of the last change you made to your facility.

The type of authorization you need *does not* depend on any financial aspect of your business, such as volume of business or gross sales.

If you cannot prove grandfathered status, you may still qualify for one or more "standard exemptions" from the permit process. Otherwise you will need a state air permit. Read on for more details about each type of authorization so you can decide which one(s) you need. If you already have a standard exemption or permit, be sure to read its conditions carefully to make sure you continue to meet them all.

WHO CAN CLAIM "GRANDFATHERED" STATUS?

Some facilities that were in operation before September 1, 1971, may be "grandfathered" (exempted) from requirements for state air permits. In order to claim that your facility is grandfathered, you must be able to prove all of the following:

- that your facility was in operation before September 1, 1971; and
- that you have not modified or changed any equipment or methods of operation since September 1, 1971; and
- that you have not changed the type of resins or other chemicals you use since September 1, 1971; and

■ that you have not increased the amount of resins or other chemicals you use since September 1, 1971.

It is difficult for most thermoset resin facilities to meet all four conditions required to prove grandfathered status. To stay competitive, most have added new, more efficient equipment over the years or have begun using different materials. Again, if you cannot prove grandfathered status, you may still qualify for one or more "standard exemptions" from the permit process. Otherwise you will need a state air permit.

If you want more information about whether you are grandfathered . . . CALL US at 1-800-447-2827

WHO CAN CLAIM A STANDARD EXEMPTION?

Thermoset resin businesses that are not grandfathered may be able to operate under a standard exemption. The term "standard exemption" means that a facility is "exempt" from the requirement for a state air permit because it meets a "standard" set of conditions. A facility that meets these conditions will not be making a significant contribution to air pollution and thus does not require a permit.

Most small businesses try to qualify for a standard exemption because it is much faster than getting a state air permit and it involves no application fee. However, the conditions of the standard exemption are not negotiable; a facility must meet them exactly to qualify.

By law, a business is required to obtain its standard exemption (or permit) before construction and operation of a facility. For a variety of reasons, however, some small businesses have not done so. If your facility is already operating and does not have the required authorization, you should get that authorization now.

IS THERE A STANDARD EXEMPTION FOR FACILITIES USING THERMOSET RESIN COMPOSITES?

Yes. TNRCC developed Standard Exemption 113 specifically for facilities that manufacture or repair products using thermoset resins. (This designation includes, but is not limited to, facilities that use polyester resins.) To qualify for Standard Exemption 113, you must not exceed certain limits on the amount of resin (including gelcoat) and acetone you use annually. Please note that the total amount of resin and acetone you can use depends on whether you spray in your operation. If you spray resin or gelcoat during *any* stage of operation at your facility, you may qualify for Standard Exemption 113 if you use no more than the amounts of resin and acetone shown in Column A below. If you *never* spray

resin or gelcoat, you may qualify for Standard Exemption 113 if you use no more than the amounts of resin and acetone shown in Column B below.

STANDARD EXEMPTION 113: ANNUAL USAGE LIMITS FOR RESIN AND ACETONE		
MATERIALS	COLUMN A IF YOU SPRAY	COLUMN B IF YOU NEVER SPRAY
RESIN (includes gelcoat)	75 tons (about 300 drums)	150 tons (about 600 drums)
ACETONE	0.75 tons (about 4 drums)	1.5 tons (about 8 drums)

If your thermoset resin facility uses no more than these resin and acetone limits and you meet all the other conditions of Standard Exemption 113, you will qualify for this exemption. Other conditions include requirements for exhaust stacks, record keeping, registering, etc.

If you are interested in the conditions you must meet to qualify for this exemption . . .
REQUEST PUBLICATION – STANDARD EXEMPTION 113

WHAT OTHER STANDARD EXEMPTIONS MIGHT APPLY TO MY BUSINESS?

Some businesses that use thermoset resins also do other things that can cause air pollution. A good example is a boat repair shop that makes repairs with resins and paints boats. Another example would be an auto paint and body shop that makes repairs with resins and paints cars. If your business includes other facilities or operations, there may be other standard exemptions that apply to your business.

If you are interested in other standard exemptions. . .
REQUEST PUBLICATIONS – OTHER STANDARD EXEMPTIONS (SEE REPLY CARD FOR OPTIONS)

WHAT HAPPENS IF I DON'T MEET THE CONDITIONS NECESSARY TO CLAIM THE STANDARD EXEMPTION?

If you don't meet the conditions of a standard exemption, you may not claim the exemption unless you modify your facility to meet the conditions. If you cannot modify your facility or operations to meet the standard exemption criteria, you must obtain a permit.

If you would like information about how to modify your facility . . .
CALL US AT 1-800-447-2827

HOW DO I GET A STATE AIR PERMIT?

Thermoset resin businesses that are not grandfathered and do not meet the requirements for Standard Exemption 113 must have a state air permit. In order to get a permit, you must submit an application and an application fee to TNRCC. Once your application is reviewed and accepted, you will receive your permit. You may then begin to construct or operate your facility.

By law, you must obtain your permit before you begin to construct and operate your facility. If your facility is already operating without the required authorization, you should get authorization now.

If you think you need a state air permit. . .
CALL US AT 1-800-447-2827

DO I NEED A FEDERAL OPERATING PERMIT?

As early as 1997, some thermoset resin facilities may need a federal operating permit in addition to state authorization. If your business fits the definition below of a Major Source of air pollution, you may need to meet certain federal control requirements and you will need a federal operating permit.

WHAT IS A "MAJOR SOURCE?"

To be a Major Source, a thermoset resin facility must emit large amounts of substances that the Environmental Protection Agency classifies as hazardous air pollutants (HAPs), or it must emit large amounts of volatile organic compounds (VOCs). HAPs and VOCs are found in the resins and solvents you use. They include such substances as styrene (which is both a HAP and VOC) and acetone (which is a VOC). Many thermoset resin facilities do not use enough resins and solvents to be considered a Major Source, but you are responsible for determining whether or not your operation is a Major Source.

HOW DO I KNOW IF I AM A MAJOR SOURCE?

If you use more than 600 drums (55-gallon size) of resin per year, you may emit enough HAPs and VOCs to qualify as a Major Source. If you use this much resin, you need to know how to calculate your emissions exactly, to determine if you are a Major Source.

If you think you might be a major source . . .
CALL US AT 1-800-447-2827

WHAT IF I PLAN TO MAKE CHANGES TO MY OPERATION?

If you plan to change any process, method of operation or equipment, you must first consider if you can still meet all the conditions of your standard exemption or permit. Changes may trigger the need for a permit or permit amendment.

If you need information on how changes you plan to make might affect your status. . .
CALL US AT 1-800-447-2827

DO SOME COUNTIES HAVE SPECIAL REQUIREMENTS?

Yes. Some counties have worse air pollution than others. The counties listed below, called "non-attainment" areas, have not "attained," or reached, national standards for clean air. Businesses that contribute to air pollution in non-attainment counties are subject to special regulations. They are required, for example, to limit acetone usage to a certain percentage of resin usage.

ARE YOU LOCATED IN ONE OF THESE COUNTIES?

Brazoria	Fort Bend	Liberty
Chambers	Galveston	Montgomery
Collin	Hardin	Orange
Dallas	Harris	Tarrant
Denton	Jefferson	Waller
El Paso		

If yes, there are special limitations and regulations that apply to you. These special limitations apply to businesses in these counties regardless of any standard exemptions or permits the businesses may have been granted. They apply even to businesses that have been grandfathered.

If your business is located in one of these counties. . .
CALL US AT 1-800-447-2827

WHAT OTHER AIR REGULATIONS APPLY?

The TNRCC provides guidance on how every business can control air pollution. The following rules apply to all businesses, including those in the thermoset resin industry:

- **Don't Be a Nuisance**

Your facility is not allowed to create emissions, including odors, that adversely affect human health or welfare, animal life, vegetation or the normal use and enjoyment of property.

- **Practice Good Housekeeping and Maintenance**

You must maintain pollution-control equipment in good working order and operate it properly. You must also notify your TNRCC regional office at least 10 days before any planned maintenance, start-up or shutdown that will cause excessive emissions. TNRCC

may request technical plans for maintenance activities.

■ **Prevent Visible Emissions**

Your facility must not give off visible emissions or fine particles of matter, like those created by grinding or woodworking activities. If this type of matter can be seen coming from your facility, you need to know more about how these emissions are regulated.

■ **Meet Applicable "Emissions Inventory" Requirements**

Major Sources of both volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) must calculate and report the amounts of these substances that are emitted. (See page 5.) If your facility uses at least 600 drums of resin per year, you may have to file an emissions inventory report with the TNRCC.

If you need to know more about these general requirements. . . CALL US AT 1-800-447-2827

WASTE REGULATIONS

HOW DO I HANDLE WASTE CHEMICALS?

The following sections will explain the steps for proper waste management. By following these procedures, you'll ensure that your business complies with federal and state hazardous waste laws.

WHAT IS A HAZARDOUS WASTE?

Before you can determine if your facility produces hazardous waste, you must first know what a "waste" is. A *waste* is any solid, liquid, or contained gas that can no longer be used for its intended purpose and that you will either recycle, throw away, or store until you have enough for treatment or disposal.

A *hazardous waste* is any waste that has one or more physical "characteristics" defined in the law as hazardous or that is "listed" as a hazardous waste in EPA regulations. Hazardous wastes are regulated by the EPA and TNRCC, so it is important that you know which wastes are hazardous.

A business that produces hazardous waste is referred to as a hazardous waste "generator." The law holds the generator responsible for determining whether or not hazardous waste is generated at his or her facility.

DO I GENERATE HAZARDOUS WASTE?

Thermoset resin facilities do generate hazardous waste, both listed and characteristic.

EPA lists over 400 discarded chemical products and wastes from specific processes as hazardous wastes. If your waste appears on one of these lists, or is mixed with any of the wastes on these lists, it is hazardous. For example, acetone is listed; if your waste contains acetone, your waste may be a hazardous waste. More examples of *listed hazardous waste* include other degreasing solvents like methylene chloride and methyl ethyl ketone, some pesticides, and certain paint thinners (depending on their ingredients).

Some listed hazardous wastes are further classified as *"acutely" hazardous wastes*. Acutely hazardous wastes are considered very harmful, and special rules apply to their storage. A typical thermoset resin facility doesn't generate any acutely hazardous wastes in its processes. However, you might use some pesticides on your property that are acutely hazardous wastes, such as famphur and heptachlor.

Characteristic hazardous wastes are wastes that meet EPA criteria for one or more of the following characteristics:

- ignitable (has a flash point less than 140° F);
- reactive (unstable or undergoes rapid violent chemical reaction with water or other materials);
- corrosive (has a pH of 2 or less, or a pH of 12.5 or more);
- toxic (includes heavy metals, pesticides and other organic compounds).

Examples of characteristic hazardous wastes include liquid resins and gelcoats that contain styrene, because styrene has a flashpoint of 88° F. Other examples include acids, bases, and some pigments used for tinting resin. Mixtures containing any of these wastes may also be hazardous wastes.

For details on listed and characteristic hazardous wastes . . .

REQUEST PUBLICATION - LISTED AND CHARACTERISTIC WASTES

HOW DO I MAKE A HAZARDOUS WASTE DETERMINATION

The law requires you to determine whether or not each waste you generate is hazardous. This is called "making a hazardous waste determination," and there are three ways to do it:

1) Compare the waste to the EPA lists and characteristics. You may use any information you have about the waste, including product labels, Material Safety Data Sheets, etc.

2) For mixed or complex wastes, use your knowledge of the waste and what went into it to compare the waste to the EPA lists and characteristics. This method is called "process knowledge" and

you may use any information you have about the waste including product labels, etc.

3) Arrange for a lab to analyze the waste.

Although some effort (and possibly expense) is required to make a hazardous waste determination on each waste, you only have to do this once. You do not have to make another hazardous waste determination unless a new waste is generated.

For details on making a hazardous waste determination . . .
CALL US AT 1-800-447-2827

WHAT IS MY GENERATOR STATUS?

After confirming that you do generate hazardous waste, the next step is to determine how much waste you generate each month. This amount determines your generator status, which in turn dictates how much hazardous waste you can store for how long, and what registration and reporting requirements apply to you. (See chart on page 11 for a summary of generator status categories and their requirements.)

Remember, it's not the amount of hazardous *material* you use, but the amount of hazardous *waste* left at the end of your process that determines your generator status.

There are three categories of hazardous waste generators. They are: Conditionally Exempt Small Quantity Generators (CESQG), Small Quantity Generators (SQG), and Large Quantity Generators (LQG).

WHAT IS A CONDITIONALLY EXEMPT SMALL QUANTITY GENERATOR?

Conditionally Exempt Small Quantity Generators (CESQGs) may *generate* no more than 220 pounds of hazardous waste per month. This is about half a 55-gallon drum of liquid waste. Also, CESQGs may generate no more than two pounds (about one quart) of "acutely" hazardous waste per month.

WHAT IS A SMALL QUANTITY GENERATOR?

Small Quantity Generators (SQGs) may *generate* between 220 and 2,200 pounds of hazardous waste per month. This is roughly between half a drum and five drums of liquid waste. Also, SQGs may *generate* no more than 2.2 pounds (about one quart) of "acutely" hazardous waste per month.

WHAT IS A LARGE QUANTITY GENERATOR?

Large Quantity Generators (LQGs) may *generate* more than 2,200 pounds of hazardous waste per month. This is about five drums of

liquid waste. LQGs may also *generate* more than 2.2 pounds (about one quart) of "acutely" hazardous waste per month.

HOW MUCH HAZARDOUS WASTE CAN I STORE AT MY FACILITY?

The amount of hazardous waste you can store and the length of time you can store it depends on your generator status. (See chart on page 11 for a summary of generator status categories and their requirements.)

- CESQGs may *store* up to 2,200 pounds (about five 55-gallon drums) of liquid for any length of time.
- SQGs may *store* up to 13,200 pounds (about thirty 55-gallon drums of liquid) up to 6 months.
- LQGs may *store* any amount of waste on-site, but must have a registered hazardous waste transporter dispose of it within three months from the initial date of storage.

DO I HAVE TO REGISTER MY BUSINESS AS A HAZARDOUS WASTE GENERATOR?

Yes, as industrial hazardous waste generators, all thermoset resin facilities must register with the TNRCC by completing the form titled *Initial Notification Form.* As proof that you have registered, TNRCC will send you a form titled *Notice of Registration* for your files.

Depending on generator status, some facilities must also register with the EPA by completing the form titled *Notification of Regulated Waste Activity*. (See chart on page 11 for a summary of generator status categories and their requirements.)

- CESQGs in the thermoset resin industry that generate 220 pounds or more of *nonhazardous* waste must register *all* waste they generate, both hazardous and nonhazardous, with the TNRCC. CESQGs that generate less than 220 pounds of *nonhazardous* waste are exempt from registering with the TNRCC. All CESQGs are exempt from registering any waste they generate with EPA.
- SQGs must register *all* wastes, hazardous and nonhazardous, with both the TNRCC and EPA.
- LQGs must also register *all* wastes, hazardous and nonhazardous, with both the TNRCC and EPA.

For specific instructions on registration . . .
CALL US AT 1-800-447-2827

The differences between CESQG, SQG and LQG are summarized in the following table.

HAZARDOUS WASTE REQUIREMENTS BASED ON GENERATOR STATUS					
GENERATOR STATUS	AMOUNT OF HAZARDOUS WASTE GENERATED PER MONTH	AMOUNT OF ACUTELY HAZARDOUS WASTE GENERATED PER MONTH	AMOUNT OF HAZARDOUS WASTE STORED ON-SITE & TIME ALLOWED	DO I REGISTER WITH TNRCC?*	DO I REGISTER WITH EPA?*
CESEQ 	less than 220 pounds or about half a 55-gallon drum or less than 100 kg	less than 2.2 pounds or less than one quart or less than 1 kg	less than 2,200 pounds for any length of time or five 55-gallon drums or 1,000 kg	Yes, only if you generate 220 pounds or more of non-hazardous waste per month	No
SQG 	220-2,200 pounds or about one-half to five 55-gallon drums or 100-1,000 kg	less than 2.2 pounds or less than one quart or less than 1 kg	up to 13,200 pounds for up to 6 months or up to about thirty 55-gallon drums or up to 6 kg	Yes	Yes
LQG 	more than 2,200 pounds or about five 55-gallon drums or more than 1,000 kg	more than 2.2 pounds or more than 1 quart or more than 1 kg	any amount for up to 3 months	Yes	Yes

*These requirements are only for industrial generators. Requirements for nonindustrial generators vary slightly.

DO I HAVE TO REPORT MY WASTE TO TNRCC?

If you must report your hazardous and Class 1 nonhazardous waste if you are required to register your waste with the TNRCC. (See page 12 and the chart above.) As a registered generator, you will automatically receive a form titled *Annual Waste Summary* each December. To report your waste, you must then return the completed form to the TNRCC by the following January 25.

For specific instructions regarding the *Annual Waste Summary* . . .

CALL US AT 1-800-447-2827

HOW SHOULD I STORE MY HAZARDOUS WASTE?

Regardless of how much hazardous waste you are allowed to store on site, you must comply with certain storage laws relating to the containers and physical conditions of the wastes. The purpose of these "container rules" is to ensure maximum safety for your staff and to protect the environment surrounding the wastes. Wastes may be accumulated in 55-gallon drums, tanks, or other containers suitable for the type of waste to be accumulated. When accumulating hazardous waste, you must:

- Clearly label each container with the words "Hazardous Waste," the date accumulation began, and the name(s) of the waste(s) in the container.

■ Keep containers in good condition and do not allow leaks, corrosion or ruptures.

■ Inspect containers weekly for leaks, corrosion and bulging.

■ Keep containers closed except when filling or emptying them.

■ Store containers holding ignitable or reactive wastes as far as possible from your property line and general work areas.

■ Never store different wastes in the same container that could react together to cause fires, leaks or gaseous releases.

To obtain specific information on how to store waste . . .
CALL US AT 1-800-447-2827

DO I HAVE TO REPORT MY WASTE TO TNRCC?

Do not dispose of hazardous waste yourself, unless you have an EPA permit allowing you to do so. To properly dispose of hazardous waste, you must choose a registered hazardous-waste transporter (who will haul the waste) and a permitted waste- management facility (which will treat or dispose of it). Many companies provide both services. When having your waste shipped off-site for disposal, you must:

■ Choose a transporter* and disposal facility that have EPA and TNRCC registration numbers.

■ Package and label your wastes properly for shipping. Your transporter should be able to help you.

■ Complete the EPA form titled *Uniform Hazardous Waste Manifest*.* This form, often simply called a "manifest," must accompany all waste shipments from your facility to the final disposal facility. The use of this tracking form is called "manifesting" your waste.

*All CESQGs are allowed to transport their own waste, without a manifest, to a permitted disposal or recycling facility.

For information on transporters, labeling and manifesting . . .
CALL US AT 1-800-447-2827

HOW SHOULD I STORE MY HAZARDOUS WASTE?

Nonhazardous waste is divided into three categories: Class 1, Class 2 and Class 3. As with hazardous waste, you must determine what class each nonhazardous waste is and dispose of it accordingly:

Class 1 wastes are considered potentially threatening to human health and the environment if improperly managed. Examples include emulsifiers and water contaminated with small amounts (less than 10 percent) of used acetone. Class 1 wastes must be

disposed of and manifested just like your hazardous waste. You should have your Class 1 wastes hauled off-site by the same transporter who picks up your hazardous waste.

Class 2 wastes are considered less threatening to human health and the environment. Examples include general office and plant trash such as paper, cardboard, packaging and food wastes. You may send your Class 2 wastes to a facility permitted to accept industrial waste. Often this will be your local municipal landfill.

Class 3 wastes are considered non-threatening. Examples include insoluble, inert wastes such as bricks and construction debris. You can dispose of your Class 3 wastes on-site or at any facility permitted to accept industrial waste.

To obtain information on nonhazardous waste disposal . . .
CALL US AT 1-800-447-2827

DO I NEED A HAZARDOUS WASTE PERMIT?

A hazardous waste "permit" is permission by the EPA and TNRCC to store, treat or dispose of your waste on your facility's property in quantities and for time periods that exceed what your generator status allows. Most thermoset resin facilities do not need a hazardous waste permit because they have their wastes hauled off by a registered transporter. But remember, even if you don't need a permit you still must register and report as a waste generator.

To obtain information on hazardous waste permits . . .
CALL US AT 1-800-447-2827

WATER REGULATIONS

WHAT DO I DO WITH MY DIRTY WATER?

Any water waste that your business generates is a waste. This includes water from washing equipment; water contaminated with solvents, gelcoats, and resins; or any other water which is an end result of some process. As stated on page 8, you must make a hazardous waste determination on all your wastes using one or more of the three methods described. If a water waste is found to be hazardous, you must follow the procedures outlined above for storing, reporting and disposing of hazardous waste. If a water waste is found to be nonhazardous, it can be discarded into the sewers, provided your municipal wastewater treatment plant has approved this practice.

Do NOT dump any waste into any drains or sewer systems until you have contacted the local wastewater treatment plant and obtained authorization. Some wastes are harmful to the collection system and the treatment plant. Some are not treatable, and some may be harmful to people working on the system or at the plant.

DI I NEED A WASTEWATER PERMIT?

A wastewater permit gives a business permission to discharge wastewater outside a municipal sewage system, i.e. to discharge into a ditch, pond, lake, creek, river or other waterway. Most thermoset resin facilities do not handle their water waste this way; they discharge it into a municipal sewage system and therefore do not need a wastewater permit. However, anyone who discharges wastewater into anything other than a municipal sewage system must have a permit to do so from TNRCC.

To obtain information on wastewater permits . . .
CALL US AT 1-800-447-2827

GENERAL REGULATIONS

HOW SHOULD I STORE MY HAZARDOUS WASTE?

Under the federal right-to-know law, certain facilities must report "releases" of specific toxic substances into the air, land or water. These reports are compiled into a state-by-state toxic release inventory (TRI). The reporting requirement for a given facility is triggered by such criteria as the annual quantity of TRI-listed chemicals (such as styrene and acetone) used and the annual number of employee hours worked.

If you use at least 100 drums of resin per year and have ten or more full-time employees, you may need to fill out a TRI report using what is called *Form R*.

For more information about TRI . . .
CALL US AT 1-800-447-2827

In addition, there may be local, city and county agencies that require registration, inspections, certificates of occupancy, business licenses, etc. You should also check with your local fire department and be familiar with OSHA (Occupational Safety and Health Administration) standards.

DO I HAVE TO REPORT MY WASTE TO TNRCC?

If you sell batteries, tires or motor oil in your business, you may be subject to certain state and federal regulations to recycle the used products. For example, if you sell batteries and a customer wishes to return used batteries to you, you are required to accept up to three used batteries in return for each new battery sold. You must also ensure that those used batteries are then destined for recycling.

If you want more information about recycling batteries, tires or motor oil . . .
CALL US AT 1-800-447-2827

HOW SHOULD I STORE MY HAZARDOUS WASTE?

You must keep whatever records are necessary to verify your compliance with the conditions of your standard exemption or air permit. The information packages we provide will specify record-keeping requirements related to any standard exemption. Each air permit contains its own record-keeping requirements.

If your business falls under the reporting requirements for either Emissions Inventory (page 7) or Toxic Release Inventory (page 14), you must also keep whatever records are necessary to file those reports. Finally, any business that creates hazardous waste must keep hazardous waste records, such as your *Notice of Registration*, copies of *Annual Waste Summaries* and shipping manifests (pages 10-12).

Remember, when it comes to complying with these laws, the burden of proof lies with you. In many instances, your records are your proof of compliance. It is therefore in your best interest to keep good records.

If you have any questions about what records you should be keeping. . .
CALL US AT 1-800-447-2827

HOW SHOULD I STORE MY HAZARDOUS WASTE?

You should notify TNRCC as soon as possible. It is always better to report your own violations than to be the subject of a complaint or to have violations discovered by the TNRCC during an inspection. In many instances, small businesses will not face fines or sanctions for their first violations if they make good faith efforts to report problems as soon as they are aware of them and if they develop a TNRCC-approved plan to correct the problems.

For confidential assistance . . .
CALL US AT 1-800-447-2827

POLLUTION PREVENTION

WHY SOUULD I BE CONCERNED ABOUT POLLUTION PREVENTION?

Small businesses should be interested in pollution prevention because the state's Waste Reduction Policy Act requires that small quantity hazardous waste generators (SQGs) have a five-year source reduction and waste minimization plan in place by January 1, 1996 or January 1, 1997, depending on the amount of waste generated.

By preventing pollution at its source, you can substantially reduce the money you spend on materials, waste disposal, pollution controls and liability protection. At the same time, you will reduce risks to your workers' health and safety.

Pollution prevention practices should also help you lower your overall administrative costs, because in general, the less pollution you generate, the fewer regulations apply to you and the less time you'll spend dealing with the government.

For more information on upcoming pollution prevention requirements . . .
CALL US AT 1-800-447-2827

WHAT ARE SOME SUGGESTED POLLUTION PREVENTION PRACTICES?

The simplest pollution prevention practice is to follow the pollution prevention hierarchy: reduce, reuse, recycle. In other words, first try to reduce the amount of materials you use. Whenever possible, reuse materials. When something cannot be reused, recycle it. This general practice is useful for any type of business, as well as at home.

The following pollution prevention practices are specific to the thermoset resin industry. Consider adopting these as part of your regular business practices. They can help reduce operating and waste-disposal costs and reduce your long-term liability.

Good Operating Practices

■ Follow a strict maintenance schedule. Maintenance is cheaper than repairs.

■ Keep storage areas clean and well organized. This will help you to spot leaks quickly, before leaks mix with other waste.

■ Minimize overspray and other wastes. This will reduce your raw material and waste disposal costs.

Inventory Control

■ Buy only what you need. Surplus solvents and other raw materials lead to high waste disposal costs.

■ Look for damaged containers and leaks when materials are delivered. You don't want to pay for someone else's carelessness.

■ Organize your shelves so that old materials are used first. Unused materials become waste that can cost you money.

Spill and Leak Prevention

■ Check equipment (such as pumps and valves) for leaks frequently.

■ Take special care when handling materials to prevent spills and costly clean up.

■ Install overflow alarms or automatic shut-off valves (if applicable) to help prevent leaks and spills when pouring resin into your molds.

Raw Material Modifications

■ Substitute raw materials when possible. For example, solvents such as acetone can be substituted with less toxic, less volatile compounds.

■ Replace solvents with emulsifiers when appropriate because emulsifiers are non-hazardous.

Process Modification

■ Consider non-spray resin application methods to minimize waste and air emissions, if appropriate to your operations.

Cleaning

■ Use less-toxic and less-volatile solvents to help reduce VOC emissions.

■ Reduce amount of solvents used when rinsing equipment. This helps reduce VOC emissions.

■ Consider automating resin-mixing to reduce labor costs and reduce the need for cleaning rags.

Recycling

■ Buy materials from vendors that recycle or reuse containers.

■ Keep each waste in a separate container for recycling.

■ Recycle excess trim when possible. Grind up and use as filler. This will cut down on your raw material and disposal costs.

■ Keep hazardous waste from contaminating nonhazardous waste. Contaminated nonhazardous waste must be disposed of as hazardous waste. This is very costly.

■ Use on-site recovery techniques to make solvents reusable. Distillation is a commonly used method to make solvents reusable.

■ If the solvents cannot be made reusable, try to find a way to recycle them. For example, purchase solvents from a company that will pick up and recycle the spent solvent.

HOW DO I DEVELOP A POLLUTION PREVENTION PLAN FOR MY BUSINESS?

By asking the question, you have taken the first step in creating pollution prevention awareness in your business. This is also the first step in building a pollution prevention plan. The following pointers may help.

1. Identify and evaluate your sources of pollution.

2. Look at short-term and long-term options for pollution prevention. The usefulness of any pollution prevention option will depend on its cost, the degree of environmental hazard the pollutant poses, the potential liability the pollutant represents and your ability to finance improvements.

3. Calculate your current costs for controlling or managing pollutants from each source and compare them with costs to reduce or prevent pollution from those sources. By linking prevention costs to the source of pollution, rather than treating these costs as overhead, you can pinpoint which prevention measures will make the most economic sense.

4. Implement pollution prevention measures that will yield the greatest benefit. Include practices that eliminate the most hazardous pollutants, that reduce the overall amount of pollutants, or that reduce or eliminate the pollutants that are most expensive to manage.

5. Develop record keeping and follow-up procedures to track the effectiveness of your plan. Good records of your progress will enable you to share news of your success with the community (your customers) and to recognize employees who have contributed to the prevention effort. Good record keeping will also prepare you to respond to any reporting requirements of state and federal agencies.

6. Re-assess your operations periodically to identify new opportunities to prevent materials from becoming pollutants. These may include recycling, substituting raw materials or making process or equipment changes.

7. Evaluate the effectiveness of your pollution prevention plan by conducting a periodic review of its results.

As you develop a pollution prevention plan for your business, remember:

■ Pollution prevention starts at the top with YOU, the small business owner or manager. Your example will set the tone for your employees. If you are enthusiastic, they will be too.

■ Your employees will probably be your best resources for preventing pollution ideas. Educate your people about your goals and then brainstorm for ideas on how to reduce or eliminate sources of pollution.

■ Pollution prevention is a continuous process.

POLLUTION PREVENTION SUMMARY GUIDE FOR THERMOSET RESIN FACILITIES		
THERMOSET RESIN PROCESSES& WASTES	AIR EMISSIONS SOLUTIONS	POLLUTION PREVENTION
RESIN PRETREATMENT	EMISSIONS: VOCs,* HAPs.** WASTES: waste water, used solvents.	Cover solvent containers to prevent evaporation. Use substitutes for acetone such as less toxic emulsifiers. Use less volatile solvents to decrease the release of VOCs. Reuse cleaning solvents. Maximize production runs to minimize waste and air emissions.
RESIN MIXING	EMISSIONS: VOCs, HAPs. WASTES: excess resin waste, scrap solvated resin, partially cured waste resin.	Use low-vapor-pressure solvents when possible to reduce the rate of VOC emissions. Use vapor balance loading of storage tank for large bulk operations. Vent your tanks into stacks to help reduce impacts of air emissions. Recycle non-activated resin.
MOLD-BASED PROCESSES	EMISSIONS: VOCs, HAPs. WASTES: overspray, partially-cured waste resins, prepreg, scrap solvated resin. spray design for most efficient coverage.	Use closed or covered molds when possible to reduce VOC emissions. Use spray guns that mix catalyst at point of application. To reduce resin viscosity, use temperature control to lessen the need for carrier solvents. Modify material application and change
FIBERGLASS COATING-BASED PROCESSES	EMISSIONS: VOCs, HAPs. WASTES: overspray, prepreg, scrap solvent-laden resin, monomers.	Use low styrene or vapor suppressed resins when possible to reduce VOC emissions. Use acetone substitutes when possible.
PULTRUSION / EXTRUSION	EMISSIONS: VOCs, HAPs. WASTES: scrap solvent-laden resin, partially cured waste resin, containers, contaminated chemical.	Separate your waste streams. Consider modifications that could save raw materials and reduce waste.
EQUIPMENT CLEANING	EMISSIONS: VOCs, HAPs. WASTES: waste solvent, over spray, floor-sweepings contaminated with resin or solvent, cleanup rags, empty bags and drums of excess materials.	Use less solvent in the cleaning process. Substitute less toxic and less volatile solvents for the more toxic and volatile solvents. Recycle solvents, recycle containers, and reuse floor sweepings when possible.

* VOCs – Volatile Organic Compounds (such as styrene and acetone)
** HAPs – Hazardous Air Pollutants (such as styrene)

IN CLOSING

DOES THIS BOOKLET CONTAIN ALL THE INFORMATION I NEED TO COMPLY WITH THE LAW?

No. This booklet is intended as a general guide to state and federal environmental laws that apply to your business. A careful reading of the information found here may reveal that you need additional materials. We have provided a postage-paid reply card to help you request additional information. If you have any questions that are not answered here, or if you have questions about any of the information found in this booklet . . .

CALL US AT 1-800-447-2827

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